

Amendments to the Claims

Please cancel claim 24 without prejudice.

The following listing of claims will replace all prior versions and/or listings of claims in the application:

Listing of Claims:

1. (currently amended): A system for detecting an multiple analytes in a fluid comprising:

a light source;

a sensor array, the sensor comprising a supporting member configured to support one or more sensing elements;

at least one a plurality of sensing elementelements, wherein a first portion of the sensing elements are configured to produce a signal in the presence of a first analyte and wherein a second portion of the sensing elements are configured to produce a signal in the presence of a second analyte, and wherein the first and second portions of the sensing elements have predetermined shapes, and wherein the shape of the first portion of sensing elements is different from the shape of the second portion of sensing elements~~wherein the sensing element has a predefined shape, and wherein the sensing element is configured to produce a signal when the sensing element interacts with the analyte during use; and~~

a detector, the detector being configured to detect the signal produced by the interaction of the analyte with the sensing element during use;

wherein the light source and detector are positioned such that light passes from the light source, to the sensing element, and onto the detector during use,~~and wherein the identity of the~~

~~analyte is determined by the detection of the signal and the shape of the sensing element during use.~~

2. (original): The system of claim 1 wherein the light source is a white light source.
3. (original): The system of claim 1 wherein the light source is a light emitting diode.
4. (original): The system of claim 1 wherein the detector is a charge-coupled device.
5. (original): The system of claim 1, further comprising a filter positioned between the sensor and the detector.
6. (original): The system of claim 1, further comprising a filter positioned between the sensor and the detector, wherein the filter is configured to remove an excitation wavelength during use.
7. (original): The system of claim 1 wherein the supporting member comprises a polymer.
8. (original): The system of claim 1 wherein the sensing element comprises a polymer.
9. (original): The system of claim 1 wherein the sensing element is positioned at the surface of the supporting member.
10. (original): The system of claim 1 wherein the sensing element comprises a polyethylene glycol hydrogel.
11. (original): The system of claim 1 wherein the sensing element comprises a receptor, and wherein the receptor is configured to produce a signal when the sensing element interacts with the analyte during use.

12. (original): The system of claim 1, wherein the support member comprises a polymer, and wherein the sensing element is at least partially embedded within the support member.

13. (original): The system of claim 1, wherein the support member comprises a polymer and wherein the sensing element comprises a polymer.

14. (original): The system of claim 1, wherein the support member comprises a polymer, and wherein the sensing element is embedded in the polymer such that the sensing element extends from a bottom surface of the support member through the support member to the top surface of the support member.

15. (original): The system of claim 1, wherein the support member comprises a substantially rigid material, and wherein the sensing elements are disposed on a surface of the support member.

16. (currently amended): The system of claim 1, wherein the support member comprises at least ~~on~~one well, and wherein the sensing element is disposed in the well.

17. (original): The system of claim 1, wherein the sensing element comprises a receptor coupled to a polymeric body.

18. (original): The system of claim 1, wherein the sensing element comprises a receptor coupled to a polymeric body, and wherein the polymeric body comprises a non-spherical shape.

19. (original): The system of claim 1, wherein the sensing element comprises a receptor coupled to a polymeric body, and wherein the polymeric body comprises a polyethylene glycol polymer.

20. (original): The system of claim 1, wherein the sensing element comprises a receptor coupled to a polymeric body, and wherein the polymeric body comprises a polyethylene glycol diacrylate.

21. (original): The system of claim 1, wherein the sensing element comprises a receptor coupled to a polymeric body, and wherein the receptor is coupled to an outer surface of the polymeric body.

22. (original): The system of claim 1, wherein the sensing element comprises a receptor coupled to a polymeric body, and wherein the receptor is at least partially encapsulated within the polymeric body.

23. (original): The system of claim 1, wherein the sensing element comprises a receptor coupled to a polymeric body, and wherein the receptor comprises a nucleic acid.

24-49 (cancelled)

50. (original): A method for forming a sensor array configured to detect ~~an~~ multiple analytes in a fluid, comprising:

forming a plurality of sensing elements having a predetermined shape, wherein a first portion of the sensing elements are configured to produce a signal in the presence of a first analyte and wherein a second portion of the sensing elements are configured to produce a signal in the presence of the second analyte, and wherein the first and second portions of the sensing elements have predetermined shapes, and wherein the shape of the first portion of sensing elements is different from the shape of the second portion of sensing elements;

placing the sensing elements in a liquid composition; and

curing the liquid composition to form a supporting member, wherein the sensing elements ~~is~~ are at least partially embedded within the cured liquid composition.

51-75 (cancelled)

76. (original): A method of sensing ~~an~~multiple analytes in a fluid comprising:

passing a fluid over a sensor array, the sensor array comprising ~~at least one~~
~~sensing element~~a plurality of sensing elements coupled to a supporting member, wherein
a first portion of the sensing elements are configured to produce a signal in the presence
of a first analyte and wherein a second portion of the sensing elements are configured to
produce a signal in the presence of a second analyte, and wherein the first and second
portions of the sensing elements have predetermined shapes, and wherein the shape of the
first portion of sensing elements is different from the shape of the second portion of
sensing elements~~the sensing element having a predetermined shape;~~

monitoring a spectroscopic change of the sensing elements as the fluid is passed
over the sensor array, wherein the spectroscopic change is caused by the interaction of the
analyte with the sensing element; and

determining the shape of the sensing elements that undergo a spectroscopic
change.

77-96 (cancelled)

97. (currently amended): A sensor array for detecting ~~an~~multiple analytes in a fluid comprising:

a supporting member; and

a plurality of sensing elements coupled to the supporting member, wherein a first
portion of the sensing elements are configured to produce a signal in the presence of a

first analyte and wherein a second portion of the sensing elements are configured to produce a signal in the presence of a second analyte, and wherein the first and second portions of the sensing elements have predetermined shapes, and wherein the shape of the first portion of sensing elements is different from the shape of the second portion of sensing elements, and wherein the sensing elements are adapted to undergo a spectroscopic change when interacting with the analyte ~~wherein the sensing elements comprise a plurality of different shapes.~~